

The Doctrine of Equivalents: Rarely Actionable Non-Literal Infringement or the Second Prong of Patent Infringement Charges?

The doctrine of equivalents is an important doctrine in patent law. The equitable doctrine of equivalents gives a patentee a second chance to protect a claimed invention when an accused infringer's device does not literally infringe, but performs the same function in the same way to achieve the same result. This Note addresses the concern of the United States Court of Appeals for the Federal Circuit that the doctrine of equivalents may become the second prong of every patent infringement charge and concludes that the doctrine of equivalents should indeed be the second prong of every patent infringement charge.

I. INTRODUCTION

A. *Constitutional Basis*

The United States Constitution expressly grants to Congress the power “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries;”¹ Congress implemented this power by granting to patentees² the right to “exclude others from making, using, or selling the [patented] invention throughout the United States” for a period of seventeen years.³ That is, a patentee may prevent others from infringing the claims of the

¹ U.S. CONST. art. I, § 8, cl. 8.

² Inventors may obtain a patent. 35 U.S.C. § 101 (1988). An inventor is “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof. . . .” *Id.* To be patentable, an invention or discovery must be, inter alia, “novel[],” 35 U.S.C. § 102 (1988), and “non-obvious,” 35 U.S.C. § 103 (1988).

³ 35 U.S.C. § 154 (1988). This confers broad rights, but is not a total bar to interference:

[A] patent confers an exclusive right upon the patentee, limited in those terms. He may prevent any one from making, selling, or using a structure embodying the invention, but the monopoly goes no further than that. It restrains every one from the conduct so described, and it does not restrain him from anything else. If, therefore, any one says to a possible customer of a patentee, “I will make the article myself; don’t buy of the patentee,” while he may be doing the patentee a wrong, and while equity will forbid his carrying out his promise, the promise itself is not part of the conduct which the patent

patent for a period of seventeen years. A patentee may sue anyone who commits patent infringement.⁴ After this seventeen year period expires, anyone may make, use or sell the invention;⁵ the invention is in the "public domain."⁶ Thus, a quid pro quo exists between the patentee and the people: the patentee has the exclusive right to prevent others from making, using, and selling the patented invention for seventeen years, after which the invention enters the public domain. The patentee gets the protection needed for the invention. The people get the benefit of the patented knowledge after the patent expires.

This system clearly "promote[s] the Progress of Science and useful Arts"⁷ by inducing inventors to disclose their inventions to the public.⁸ The inventor

forbids; it is not a "subtraction" from the monopoly. If it injures the plaintiff, though never performed, perhaps it is a wrong, like a slander upon his title, but certainly it is not an infringement of the patent.

Paper Converting Machine Corp. v. Magna-Graphics Corp., 745 F.2d 11, 16, 223 U.S.P.Q. 591, 594 (Fed. Cir. 1984) (quoting Van Kannell Revolving Door Co. v. Revolving Door & Fixture Co., 293 F. 261, 262 (S.D.N.Y. 1920)).

⁴ 35 U.S.C. § 281 (1988).

⁵ In general, this is true. However, other may make, use, or sell the items covered by the patent claims only if the subject matter is not covered by another valid patent.

Should there be such other [dominating] patents still in force when a patent expires, the monopoly of the expiring patent is not 'extended'; that monopoly ends and any other patents which may affect the rights of the public to use something the expiring patent discloses stand on their own legal foundations. *The expiration of a patent right is not a guarantee of a right to use.*

Studiengesellschaft Kohle mbH v. Northern Petrochem. Co., 784 F.2d 351, 357, 228 U.S.P.Q. 837, 842 (Fed. Cir. 1986) (emphasis added) (quoting In re Heinle, 342 F.2d 1001, 1005, 145 U.S.P.Q. 131, 135 (C.C.P.A. 1965)).

⁶ E.g., Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 152 (1989) ("We have long held that after the expiration of a federal patent, the subject matter of the patent passes to the free use of the public as a matter of federal law.") (citations omitted); Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 495 (1974) (Douglas, J., dissenting) ("[E]very article not covered by a valid patent is in the public domain."); Sears, Roebuck & Co. v. Stiffel Co., 376 U.S. 225, 230 (1964) ("[W]hen the patent expires the monopoly created by it expires, too, and the right to make the article—including the right to make it in precisely the shape it carried when patented—passes to the public.") (citations omitted); Compco Corp. v. Day-Bright Lighting, Inc., 376 U.S. 234, 237-38 (1964).

⁷ U.S. CONST. art. I, § 8, cl. 8.

⁸ "The economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in

trying to prevent others from making, using, or selling an invention has a choice between alternatives: the inventor can either (1) hide the invention and treat it as a trade secret, or (2) secure these protective rights by obtaining a patent. If the inventor chooses the secrecy option, society loses out because the invention may remain a mystery. Furthermore, choosing the secrecy option is not very safe for the inventor. Trade secret laws offer a great deal of protection; however, the benefits of trade secret laws are usually forfeited if the secret is revealed.⁹ For example, if the inventor makes, uses, or sells the invention, the secret may be revealed through reverse-engineering, causing the secrecy-based protection to fail. On the other hand, choosing the patent option gives the inventor the desired protection. By obtaining a patent, the inventor may exclude others from making, using, and selling the invention, thereby acquiring the power to prevent any infringement. This inducement to obtain a patent ultimately allows the body of public domain knowledge to grow, thereby "promot[ing] the Progress of Science and the useful Arts."¹⁰

B. Basics of Patent Claim Infringement

The "claim(s)" of a patent are a critical aspect of the quid pro quo between the public and the patentee outlined above. The patent claims define the metes and bounds of the invention.¹¹ That is, the patent claims set forth what the patentee has an exclusive right to exclude others from making, using, and selling.¹² Consequently, the patent claims define what may be made, used, or sold by the public after a patent expires.¹³ Patent claims may be conveniently thought of as being made up of "elements" or "limitations." Each element or limitation of a claim narrows (*i.e.*, limits) the subject matter of the claim.

Two forms of patent infringement exist: literal infringement and infringement by equivalents. In literal infringement, the accused device,

'Science and useful Arts.' Sacrificial days devoted to such creative activities deserve rewards commensurate with the service rendered." *Mazer v. Stein*, 347 U.S. 201, 219 (1954).

⁹ The trade secret laws of most states are based on either the Uniform Trade Secret Act or § 757 of the *Restatement of Torts*. See generally MELVIN F. JAGER, *TRADE SECRETS LAW* §§ 3.01-.04 (1988). Both types of protection fail if the secret is revealed to the public. *Id.* For example, in Texas, the only requirement for trade secret protection is that the trade secret is truly secret. *Id.* § 3.04.

¹⁰ U.S. CONST. art. I, § 8, cl. 8.

¹¹ 35 U.S.C. § 112 (1988).

¹² See 6 ERNEST B. LIPSCOMB III, *LIPSCOMB'S WALKER ON PATENTS* § 22:2 (3d ed. 1987).

¹³ For clarification, see *supra* notes 5 & 6 and accompanying text.

substance, or process infringes a patent claim if the patent claim "reads on" the accused device, substance, or process. That is, if all the limitations of the patent claim are found in the accused device, substance, or process, then the accused device, substance, or process literally infringes the patent claim.

Conversely, if the patent claim does not literally read on the accused device, substance, or process, then there is not literal infringement. However, if the accused device, substance, or process "performs substantially the same overall function or work, in substantially the same way, to obtain substantially the same result as the claimed invention,"¹⁴ then that accused device, substance, or process *may*¹⁵ infringe the claims of the patented invention. This is infringement under the doctrine of equivalents.

Technically, the doctrine of equivalents does not expand the coverage of the claims, it just expands the patent holder's right to exclude "equivalents" of what is claimed.¹⁶ However, whether the claim is expanded to encompass unclaimed material, or the unclaimed material is brought within the scope of the claim, the effect is the same: a device, substance, or process which does not literally infringe the patent claims is held to infringe. Thus, the boundary between the claimed material and the prior art is moved. That is, the patentable area between the claimed material and the prior art shrinks.

C. Purpose and History of the Doctrine of Equivalents

The Supreme Court's latest opinion covering the doctrine of equivalents is in *Graver Tank & Mfg. v. Linde Air Prod. Co.*¹⁷ The *Graver Tank* Court defined the purpose of the doctrine in terms of protecting patentees from

¹⁴ *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934-35, 4 U.S.P.Q.2d 1737, 1739 (Fed. Cir. 1987) (en banc), *cert. denied*, 485 U.S. 961 (1988) (citing *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.*, 339 U.S. 605, 608, 85 U.S.P.Q. 328, 330 (1950); *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 901-02, 221 U.S.P.Q. 669, 679 (Fed. Cir.), *cert. denied*, 469 U.S. 857 (1984)).

¹⁵ "The doctrine of equivalents is limited in that the doctrine will not extend (1) to cover an accused device in the prior art, and (2) to allow the patentee to recapture through equivalence certain coverage given up during prosecution." *Pennwalt Corp.*, 833 F.2d at 935 n.1, 4 U.S.P.Q. at 1739 n.1 (citing *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 870, 228 U.S.P.Q. 90, 96 (Fed. Cir. 1985)).

¹⁶ *Wilson Sporting Goods Co. v. David Geoffrey & Assoc.*, 904 F.2d 677, 684, 14 U.S.P.Q.2d 1942, 1948 (Fed. Cir. 1990).

¹⁷ 339 U.S. 605, 85 U.S.P.Q. 328 (1950).

“piracy,” “fraud,” and “stealing.”¹⁸ When establishing literal infringement, a patentee must demonstrate that every limitation of the disputed claim is found in the accused device.¹⁹ Thus, if only one claim limitation is missing from the accused device, then the literal infringement charge fails. This rule is as harsh as it seems. Seemingly, a competitor could make a very slight change, placing the other device just outside the literal scope of the claims, and thereby escape literal infringement. The doctrine of equivalents was developed to temper the harshness of the application of the literal infringement doctrine. If the doctrine of equivalents did not exist, we would have to invent it.

The doctrine of equivalents is a very old doctrine. The pioneering case of *Winans v. Denmead*,²⁰ decided in 1853 by the United States Supreme Court, is usually cited as originating the doctrine.²¹ In *Winans* a patent was taken out for making “the body of a burden railroad car, made of sheet iron, the upper part being cylindrical, and the lower part in the form of a frustum of a cone.”²² The major benefit of this patent was that railroad cars made under this patent could carry a much higher weight of cargo as a percentage of car weight. Previous railroad cars could carry roughly their weight in cargo; cars made under the patent could carry almost four times their weight in cargo.²³ The defendant in *Winans* desired this benefit and sent a draftsman to the plaintiff’s shop, where the draftsman took enough measurements to virtually duplicate plaintiff’s railroad car.²⁴ Defendant then made a railroad car with the same beneficial

¹⁸ *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.*, 339 U.S. 605, 612, 85 U.S.P.Q. 328, 330 (1950) (Black, J., dissenting).

¹⁹ *E.g.*, *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1539, 20 U.S.P.Q.2d 1456, 1458 (Fed. Cir. 1991) (“There can be no infringement as a matter of law if a claim limitation is totally missing from the accused device.”) (citing *Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 798, 17 U.S.P.Q.2d 1097, 1101 (Fed. Cir. 1990)); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 4 U.S.P.Q.2d 1737 (Fed. Cir. 1987) (en banc), *cert. denied*, 485 U.S. 961 (1988).

²⁰ 56 U.S. (15 How.) 330 (1853).

²¹ *E.g.*, *Pennwalt Corp.*, 833 F.2d at 946, 960, 4 U.S.P.Q.2d at 1749, 1760 (Bennet, Sr. J., dissenting in part; Newman, J., commentary), *cert. denied*, 485 U.S. 961 (1988). Although *Winans* is usually cited as the origin of the doctrine, it probably had its roots much earlier. *E.g.*, *Gray v. James*, 10 F. Cas. 1015, 1016 (C.C.D. Pa. 1817) (No. 5,718) (“[A]s a general rule, . . . where [a claimed device and an accused device] are substantially the same, and operate in the same manner, to produce the same result, they must be in principle the same.”) (charging jury).

²² *Winans*, 56 U.S. (15 How.) at 339.

²³ *Id.* at 331.

²⁴ *Id.* at 332.

increase in hauling capacity. The only difference between the two cars was that plaintiff's was nominally cylindrical and conical²⁵ and defendant's was octagonal and pyramidal.²⁶ The patentee only claimed the cylindrical railroad car.²⁷ Therefore, the defendant's car could not literally infringe the claims of the patent, as the trial court held.²⁸ However, on these facts, the *Winans* Court reversed the trial court's finding of no infringement, because the defendant's railroad car was "substantially the same" as the plaintiff's.²⁹ Thus, the doctrine of equivalents was born.

Two clearly competing policies are at work in every infringement by equivalents case. These policies have corresponding functions in the patent system and may be labeled (1) the "notice to the public function" and (2) the "protect the patentee function." The first policy, as stated by the Federal Circuit in *London v. Carson Pirie Scott & Co.*,³⁰ is that:

On the one hand, claims must be "particular" and "distinct," as required by 35 U.S.C. § 112, so that the public has fair notice of what the patentee and the Patent and Trademark Office have agreed constitute the metes and bounds of the claimed invention. Notice permits other parties to avoid actions which infringe the patent and to design around the patent.³¹

Thus, the requirement of particularity and distinctness of claims fulfill the "notice function" of the patent system, allowing the public to know what may be safely used.³²

²⁵ *Id.* at 339.

²⁶ *Id.* at 340.

²⁷ *Id.* at 342.

²⁸ *Id.* at 330.

²⁹ *Id.* at 340.

³⁰ 946 F.2d 1534, 20 U.S.P.Q.2d 1456 (Fed. Cir. 1991) (affirming a decision granting summary judgment of non-infringement in favor of defendants).

³¹ *Id.* at 1538 (citing *State Indus. v. A.O. Smith Corp.*, 751 F.2d 1226, 1236 (Fed. Cir. 1985)).

³²

The limits of a patent must be known for the protection of the patentee, the encouragement of the inventive genius of others, and the assurance that the subject of the patent will be dedicated ultimately to the public. . . . The inventor must "inform the public during the life of the patent of the limits of the monopoly asserted, so that it may be known which features may be safely used or manufactured without a license and which may not."

The second policy is the constitutionally mandated policy of protecting the patentee. Patentees must have confidence in the system: "On the other hand, the patentee should not be deprived of the benefits of his patent by competitors who appropriate the essence of an invention while barely avoiding the literal language of the claims."³³ This is the constitutionally-mandated "protect the patentee function" of the patent system. The second policy is stated by the United States Supreme Court in *Graver Tank* as follows: "The essence of the doctrine [of equivalents] is that one may not practice a fraud on a patent."³⁴

Of the two functions, it is believed that the "protect the patentee" function is slightly more important and should be given slightly more weight when a court balances the two or is forced to choose between the two. First of all, the "protect the patentee" function is constitutionally mandated. A simple example shows the slight edge of the "protect the patentee" function. The grant of power is "to promote the Progress of Science and useful Arts"³⁵ by protecting inventors' works. If patentees have a great deal of confidence in the patent system, yet the public loses confidence in patent claims to aid in deciding whether their acts infringe or not, then inventors will continue to patent, and

General Electric Co. v. Wabash Appliance Corp., 304 U.S. 364, 369 (1938) (footnotes omitted).

The object of the patent law in requiring the patentee to "particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery," is not only to secure to him all to which he is entitled, but to apprise the public of what is still open to them.

McClain v. Ortmayer, 141 U.S. 419, 424 (1891).

The doctrine of equivalents does not authorize judicial revision of the basic invention; the interested public must know with reasonable precision the boundaries of the patent grant.

Perkin-Elmer Corp. v. Westinghouse Elec. Corp., 822 F.2d 1528, 1542, 3 U.S.P.Q.2d 1321, 1332 (Fed. Cir. 1987) (Newman, J., dissenting).

³³ *London*, 946 F.2d at 1538, 20 U.S.P.Q. at 1458 (citing *Laitram Corp. v. Cambridge Wire Cloth Co.*, 863 F.2d 855, 856-57, 9 U.S.P.Q. 1289, 1291 (Fed. Cir. 1988), *cert. denied*, 490 U.S. 1068 (1989) (citing the additional opinions in *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 4 U.S.P.Q.2d 1737 (Fed. Cir. 1987) (en banc), *cert. denied*, 485 U.S. 961 (1988) as exhaustively discussing these competing policies)).

³⁴ *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.*, 339 U.S. 605, 608, 85 U.S.P.Q. 328, 330 (1950).

³⁵ U.S. CONST. art. I, § 8, cl. 8.

the body of knowledge through expired patents will continue to grow. That is, the progress of science and useful arts will be promoted.

On the other hand, if patentees lose confidence in the system and choose the secrecy option, yet the public has great confidence in the patent system, then the number of new patents will dwindle. Consequently, the body of knowledge through expired patents will stagnate. The progress of science and useful arts will cease. In short, the progress of science and useful arts is related to the confidence of patentees and inventors in the patent system; the progress of science and useful arts is not related to the confidence of the public in the patent system.

Second of all, the notice function appears to be a secondary function. For example, as many as seven percent of the twenty-four million paper documents on file at the Patent and Trademark Office may be missing at any one time.³⁶ How important can the notice function be if the notice is as much as seven percent deficient? Thus, the "protect the patentee function" is slightly more important and should be given slightly more weight when the two policies clash.

II. ESTABLISHING INFRINGEMENT UNDER THE DOCTRINE OF EQUIVALENTS

The doctrine of equivalents is very easy to understand. An accused device infringes if it "performs substantially the same overall function or work, in substantially the same way, to obtain substantially the same result as the claimed invention." This is the *Graver Tank* "function-way-result"³⁷ test. However, the doctrine of equivalents is an equitable doctrine³⁸ and like many equitable doctrines there are no bright lines determining what is an equivalent and what is not.³⁹ Therefore, while the doctrine of equivalents is easy to

³⁶ Peggy A. Miller, *Electronic Information Publishing: Old Issues in a New Industry: U.S. Government as an Information Provider/Competitor*, 187 PLI/PAT 375, text on WESTLAW, at *277 (1984).

³⁷ This shorthand is used in many cases. *E.g.*, *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1326, 21 U.S.P.Q.2d 1161, 1164 (Fed. Cir. 1991); *Perkin-Elmer Corp.*, 822 F.2d at 1542, 3 U.S.P.Q.2d at 1332 (Newman, J., dissenting).

³⁸ *E.g.*, *Insta-Foam Prods., Inc. v. Universal Foam Sys., Inc.*, 906 F.2d 698, 702, 15 U.S.P.Q.2d 1295, 1297 (Fed. Cir. 1990); *Perkin-Elmer Corp.*, 822 F.2d at 1536, 3 U.S.P.Q.2d at 1327 (Newman, J., dissenting).

³⁹ The absence of bright line tests affects many judicial areas:

understand, application of the doctrine is somewhat difficult. This difficulty is enhanced by the fact that even the members of the United States Court of Appeals for the Federal Circuit cannot agree on its application.⁴⁰

One obvious prerequisite to the application of the doctrine of equivalents is the absence of literal infringement. If every element of a claim literally reads on the accused device, then the accused device literally infringes that claim and the analysis ceases.⁴¹

The boundary between judicial power and nullity should . . . , if possible, be a bright line, so that very little thought is required to enable judges to keep inside it. If, on the contrary, that boundary is vague and obscure, raising "questions of penumbra, of shadowy marches," two bad consequences will ensue similar to those on the traffic artery. Sometimes judges will be misled into trying lengthy cases and laboriously reaching decisions which do not bind anybody. At other times, judges will be so fearful of exceeding the uncertain limits of their powers that they will cautiously throw out disputes which they really have capacity to settle, and thus justice which badly needs to be done will be completely denied. Furthermore, an enormous amount of expensive legal ability will be used up on jurisdictional issues when it could be much better spent upon elucidating the merits of cases. In short, a trial judge ought to be able to tell easily and fast what belongs in his court and what has no business there.

Sisson v. Ruby, 497 U.S. 358, 375 (1990) (Scalia, J., concurring) (dealing specifically with subject matter jurisdiction) (quoting CHAFEE, *THE THOMAS M. COOLEY LECTURES, SOME PROBLEMS OF EQUITY* 312 (1950) (quoting *Hanover Star Milling Co. v. Metcalf*, 240 U.S. 403, 426 (1916) (Holmes, J., concurring))).

⁴⁰ *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 4 U.S.P.Q.2d 1737 (Fed. Cir. 1987) (en banc) (7-4 vote with sharp dissenting opinion filed by Bennett, Senior Circuit Judge) (opinion expressing "additional views" in support of the majority filed by Nies, Circuit Judge), *cert. denied*, 485 U.S. 961 (1988). *Pennwalt* has the force of the en banc majority; however, the consistent application of the doctrine of equivalents appears to be up in the air. *Malta v. Schulmerich Carillons, Inc.*, 959 F.2d 923, 923, 21 U.S.P.Q.2d 2039, 2039 (Fed. Cir. 1992) (Newman, Circuit Judge, dissenting from denial of rehearing en banc) ("[T]he interpretation of the doctrine of equivalents will continue to depend on the selection of the panel.").

⁴¹ *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.*, 339 U.S. 605, 607, 85 U.S.P.Q. 328, 330 (1950); *Jurgens v. McKasy*, 927 F.2d 1552, 1560, 18 U.S.P.Q.2d 1031, 1037 (Fed. Cir. 1991).

A. *Specific Argument and Findings as to the Function-Way-Result Test*

In general, the determination of infringement under the doctrine of equivalents is a question of fact.⁴² Additionally, a jury verdict of infringement by equivalents must be supported by substantial evidence.⁴³

When an infringement by equivalents case is being tried before a jury, the patentee must expressly compare the three *Graver Tank* elements of function, way, and result of the claimed invention with the function, way, and result of the accused device.⁴⁴ This is to “prevent the jury from being ‘put to sea without guiding charts,’ and [to prevent the jury] from determining infringement [by equivalents] by simply comparing the claimed invention and the accused device ‘as to overall similarity.’”⁴⁵ That is, in performing the doctrine of equivalents analysis, merely comparing the “invention as a whole” to the accused device is not proper.

This requirement that counsel for the patentee provide particularized testimony and a linking argument for each of the *Graver Tank* prongs is not mandated when the case is being tried before the United States International

⁴² *E.g.*, *Jonsson v. Stanley Works*, 903 F.2d 812, 821, 14 U.S.P.Q.2d 1863, 1871 (Fed. Cir. 1990) (citing *Townsend Eng'g Co. v. HiTec Co.*, 829 F.2d 1086, 1089, 4 U.S.P.Q.2d 1136, 1138 (Fed. Cir. 1987) (citing *Graver Tank*, 339 U.S. at 609, 85 U.S.P.Q. at 331).

⁴³ *E.g.*, *Jurgens*, 927 F.2d at 1557, 18 U.S.P.Q.2d at 1035 (citing, *e.g.*, *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1552, 10 U.S.P.Q.2d 1201, 1207 (Fed. Cir. 1989)).

⁴⁴ *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1323–24, 21 U.S.P.Q.2d 1161, 1163–64 (Fed. Cir. 1991) (quoting *Lear-Siegler, Inc. v. Sealy Mattress Co.*, 873 F.2d 1422, 1425–26, 10 U.S.P.Q.2d 1767, 1770 (Fed. Cir. 1989) (citing *Nestier Corp. v. Menasha Corp.*, 739 F.2d 1576, 222 U.S.P.Q. 747 (Fed. Cir. 1984), *cert. denied*, 470 U.S. 1053 (1985)). “[T]he three *Graver Tank* elements [substantial identity of function, way and result] must be presented in the form of particularized testimony and linking argument.” *Id.* “[A] patentee must prove substantial identity as to each of the function, way, and result prongs of the doctrine of equivalents.” *Id.* at 1166 (citing *Lear-Siegler*, 873 F.2d at 1425, 10 U.S.P.Q.2d at 1770; *Nestier*, 739 F.2d at 1579–80, 222 U.S.P.Q. at 750).

⁴⁵ *Malta*, 952 F.2d at 1327, 21 U.S.P.Q.2d at 1166 (quoting *Lear-Siegler*, 873 F.2d at 1426–27, 10 U.S.P.Q.2d at 1770–71. The Federal Circuit expressly rejected the idea of comparing the “invention as a whole” with the accused device to determine infringement by equivalents. *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 4 U.S.P.Q.2d 1737 (Fed. Cir. 1987) (en banc), *cert. denied*, 485 U.S. 961 (1988).

Trade Commission.⁴⁶ “Unlike a jury in a district court case, the Commission resolves disputes involving patent infringement matters with some regularity and thus is aware of doctrine of equivalents jurisprudence.”⁴⁷ Because district court judges are also presumably aware of doctrine of equivalents jurisprudence, the requirement might possibly be waived during bench trials.

Not surprisingly, just as a patentee must argue that the *Graver Tank* function-way-result test is met, the court must specifically find that the *Graver Tank* tripartite test was satisfied.⁴⁸ That is, a court must expressly find that the accused device performs substantially the same function, in substantially the same way, to achieve substantially the same result as the claimed invention to hold that a claimed invention is infringed by equivalents.⁴⁹

B. All Elements Rule and Element-by-Element Analysis

The patentee’s demonstration that the accused device, as a whole, performs substantially the same function, in substantially the same way, to achieve substantially the same result as the claimed invention is only the beginning of the analysis.⁵⁰

When establishing literal infringement, a patentee must demonstrate that every element of the disputed claim is found in the accused device.⁵¹ If only one claim element is missing from the accused device, then the literal infringement charge fails.⁵²

Similarly, when establishing infringement by equivalents, the equivalent of every disputed claim limitation must be found in the accused device.⁵³ As one court has phrased this “all elements rule,” “It is . . . well settled that each

⁴⁶ Intel Corp. v. United States Int’l Trade Comm’n, 946 F.2d 821, 832–33, 20 U.S.P.Q.2d 1161, 1171 (Fed. Cir. 1991).

⁴⁷ *Id.*

⁴⁸ Conair Group, Inc. v. Automatik Apparate-Maschinenbau GmbH, 944 F.2d 862, 866, 20 U.S.P.Q.2d 1067 (Fed. Cir. 1991) (reversing district court order for a preliminary injunction enjoining infringement because the district court asserted that infringement could also be found under the doctrine of equivalents, without finding that the *Graver Tank* tripartite analysis was satisfied).

⁴⁹ *Id.* at 866, 20 U.S.P.Q.2d at 1070.

⁵⁰ Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 934–35, 4 U.S.P.Q.2d 1737, 1739–40 (Fed. Cir. 1987) (en banc), *cert. denied*, 485 U.S. 961 (1988).

⁵¹ See *supra* note 19.

⁵² See *supra* note 19.

⁵³ *E.g.*, Pennwalt Corp., 833 F.2d at 934–35, 4 U.S.P.Q.2d at 1739–40.

element of a claim is material and essential, and that in order for a court to find infringement, the plaintiff must show the presence of every element or its substantial equivalent in the accused device.”⁵⁴ In any given infringement by equivalents case, probably some or most of the elements of the disputed claim will be met literally. The remaining claim elements must be met equivalently. Under this “element-by-element” analysis, each element of the asserted claim must be met either literally or equivalently.

It thus follows that addition of functions to an accused device will not defeat the patentee’s protection. An accused device that includes, either literally or equivalently, every element of the asserted claim cannot escape infringement because it performs functions in addition to the claimed invention.⁵⁵

C. *What is an Equivalent?*

The definition of an “equivalent” has been purposefully left fuzzy by the Federal Circuit so the court may do equity under the doctrine. Even fuzzier is whether an equivalent must have existed at the time of invention. Also unclear is whether the range of equivalents depends on the “pioneer” or “non-pioneer” status of the invention.

1. *Defining an Element*

A patentee bringing an infringement by equivalents charge will be hastily met with summary judgment if the patentee fails to produce evidence establishing that the limitations of the disputed claim are met equivalently by an element of the accused device.⁵⁶ As part of providing particularized testimony

⁵⁴ *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538, 20 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 1991) (quoting *Lemelson v. United States*, 752 F.2d 1538, 1551, 224 U.S.P.Q. 526, 533 (Fed. Cir. 1985)).

⁵⁵ *Insta-Foam Prod., Inc. v. Universal Foam Sys., Inc.*, 906 F.2d 698, 702, 15 U.S.P.Q.2d 1295, 1298 (Fed. Cir. 1990) (citing *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1057, 5 U.S.P.Q.2d 1434, 1444 (Fed. Cir. 1988) (“Adding features to an accused device will not result in non-infringement if all the limitations in the claims, or equivalents thereof, are present in the accused device.”)).

⁵⁶ *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1389 (Fed. Cir. 1992). “Rule 56(c) mandates the entry of summary judgment . . . against a party who fails to make a showing sufficient to establish the existence of an element [i.e., factor] essential to that party’s case, and on which that party will bear the burden of proof at trial.” *Id.* (quoting *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986)). The patentee has the burden of

and linking argument for each of the *Graver Tank* tripartite prongs,⁵⁷ counsel for the patentee must sufficiently explain “why” a given element of the accused device is an equivalent of the corresponding claim limitation.⁵⁸ A mere assertion that an element of an accused device is an equivalent of the disputed claim limitation will not suffice.⁵⁹ This is an elusive and frustrating requirement because the Federal Circuit has not, and probably will never, set out a definitive formula for determining whether an element of an accused device is a “substantial equivalent” of a claim limitation pertaining to a claim element.⁶⁰

While the Federal Circuit has not presented a cut and dried formula for establishing whether an element of an accused device is a substantial equivalent of a disputed claim limitation,⁶¹ numerous “hints” may be found: (1) “‘Proof [of equivalence] can be made in any form: through testimony of experts or others versed in the technology; by documents, including texts and treatises; and, of course, by the disclosures of the prior art.’”⁶² (2) One may apply the

proving at trial that a limitation of a disputed claim is met equivalently by an element of the disputed device. Subpart II(E). As such, summary judgment is appropriate if no evidence of equivalence is presented.

⁵⁷ See *supra* subpart II(A).

⁵⁸ *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1327, 21 U.S.P.Q.2d 1161, 1166 (Fed. Cir. 1991). The dissent in *Malta* argues that the majority added the requirement of explaining “why” the accused device is the equivalent of the claimed device. Thus, the dissent argues, the majority added a fourth prong to the *Graver Tank* tripartite test. *Id.* at 1172 (Newman, J., dissenting). The majority and concurring opinions argue in rebuttal that requiring the patentee to prove “why” the accused device is an equivalent of the claimed device is actually only an elaboration on the requirement that the patentee prove the substantial “way” prong of *Graver Tank*. *Id.* at 1167–69 (Michel, J., concurring).

⁵⁹ *Id.* at 1166.

⁶⁰ “*Pennwalt* did not set forth a test as to *how* one proves that an element is an accused device is the ‘substantial equivalent’ of a claim limitation directed to a single element in dispute” *Malta*, 952 F.2d at 1325, 21 U.S.P.Q.2d at 1165. The Federal Circuit expressly declined to set out such a test in *Corning Glass Works v. Sumitomo Elect. U.S.A., Inc.*, 868 F.2d 1251, 1260, 9 U.S.P.Q.2d 1962, 1968–69 (Fed. Cir. 1989). The *Malta* Court also declined to elaborate a test, stating instead that “[h]ow equivalency to a required limitation is met necessarily varies from case to case due to many variables such as the form of the claim, the nature of the invention defined by it, the kind of limitation that is not literally met, etc.” *Malta*, 21 U.S.P.Q.2d at 1165.

⁶¹ See *supra* note 60.

⁶² *Corning Glass Works*, 868 F.2d at 1261, 9 U.S.P.Q.2d at 1969 (quoting *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.*, 339 U.S. 605, 609, 85 U.S.P.Q. 328, 331 (1950)). However, merely having an expert assert equivalency is clearly unacceptable. *Malta*, 952 F.2d at 1325, 21 U.S.P.Q.2d at 1166.

Graver Tank tripartite analysis to the disputed claim element by proving that an element of the accused device performs substantially the same function, in substantially the same way, to achieve substantially the same result as the disputed claim limitation.⁶³ (3) The prior art⁶⁴ may be used to establish equivalency.⁶⁵ The prior art may be used to demonstrate that one concept is the equivalent of another concept without placing the patented concept into the prior art. That is, the prior art can teach the equivalency without teaching the patented concept. However, equivalency may not be used to help a patentee ensnare the prior art.⁶⁶ (4) The interchangeability of a component of the claimed device and a component of the accused device, although not dispositive as to equivalency,⁶⁷ is clearly a factor in determining equivalency.⁶⁸ (5) A

⁶³ *Malta*, 952 F.2d at 1325-26, 21 U.S.P.Q.2d at 1165 (quoting *Corning Glass Works*, 868 F.2d at 1260, 9 U.S.P.Q.2d at 1968-69 (while not the only way to show that a structure in an accused device is the substantial equivalent of a claim limitation, the district court's use of the function-way-result analysis with respect to a claim limitation is both "helpful" and "acceptable"))).

Generally, while the *Graver Tank* function-way-result analysis must be applied to the claimed invention and the accused device, the *Graver Tank* function-way-result analysis may be used to establish that an element of the accused device is a substantial equivalent of a claim limitation.

⁶⁴ Loosely speaking, "prior art" for a given invention includes patents, papers, and devices (dealing with similar subject matter) that are published, known, used, or sold in this country before either the patent application is filed or the invention or discovery is made. See 1 LIPSCOMB, *supra* note 12, §§ 4:10-:21, 4:52.

⁶⁵ For example,

Pressure in a machine may be produced by a spring or by a weight; and where that is so, the one is a mechanical equivalent of the other. Cases arise also where a rod and an endless chain will produce the same effect in a machine; and where that is so, the constructor in operating under the patent may substitute the one for the other, and still claim the protection which the patent confers. Exactly the same function in certain cases may be accomplished by a lever or by a screw; and where that is so, the substitution of the one for the other cannot be regarded as invention.

Imhaeuser v. Buerk, 101 U.S. 647, 656 (1879).

⁶⁶ See *infra* subpart II(E).

⁶⁷ *C.R. Bard, Inc. v. Kendall Co.*, 935 F.2d 280 (Table) (unpublished disposition, text in WESTLAW, at *5 (Fed. Cir. 1991) ("[A]n interchangeable device is not necessarily an equivalent device.") (quoting *Key Mfg. Group, Inc. v. Microdot, Inc.*, 925 F.2d 1444, 1449, 17 U.S.P.Q.2d 1806, 1810 (Fed. Cir. 1991)).

claim may have a broad range of equivalents with respect to one limitation and a narrow range of equivalents with respect to another limitation.⁶⁹

2. Existence of Equivalency at the Time of Infringement

Under Federal Circuit precedent built on *Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*,⁷⁰ an equivalent clearly need not have existed at the time the invention was made.⁷¹ Thus, equivalents may be found in subsequently developed technology.⁷²

However, *Atlas* and subsequent cases did not discuss older and unambiguous United States Supreme Court precedents that held that an equivalent must indeed have existed at the time of invention.⁷³

⁶⁸ *Id.* (citing *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.*, 339 U.S. 605, 609, 85 U.S.P.Q. 328, 331 (1950)).

⁶⁹ *John D. Brush & Co., Inc. v. United States Int'l Trade Comm'n*, 928 F.2d 411 (Table), 12 I.T.R.D. 2568, text in WESTLAW, at *5 (Fed. Cir. 1991).

⁷⁰ 750 F.2d 1569, 1580-81, 224 U.S.P.Q. 409, 416-17 (Fed. Cir. 1984).

⁷¹ *E.g.*, *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 805 F.2d 1558, 1563, 231 U.S.P.Q. 833, 835 (Fed. Cir. 1986).

⁷² *E.g.*, *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 941-42 n.4, 4 U.S.P.Q.2d 1737, 1745 n.4 (Fed. Cir. 1987) (en banc) (Bennett, Senior Circuit Judge, dissenting in part) (citing *Atlas Powder Co.*, 750 F.2d at 1581, 224 U.S.P.Q. at 417, *cert. denied*, 485 U.S. 961 (1988)).

⁷³ The idea of giving pioneer inventions a broader range of equivalents is over a century old:

Mere formal alterations in a combination in letters patent, however, are no defense to the charge of infringement, and the withdrawal of one ingredient from the same and the substitution of another which was *well known at the date of the patent* as a proper substitute for the one withdrawn, is a mere formal alteration of the combination if the ingredient substituted performs substantially the same function as the one withdrawn.

Seymour v. Osborne, 78 U.S. (11 Wall.) 516, 556 (1870) (emphasis added). The doctrine of equivalents is not available "if the ingredient substituted was a new one, or performs a substantially different function, or was *not known at the date of the patent* as a proper substitute for the one omitted from his patented combination." *Gould v. Rees*, 82 U.S. (15 Wall.) 187, 194 (1872) (emphasis added). "By an equivalent . . . it is meant that the ingredient substituted for the one withdrawn performs the same function as the other, and that it was *well known at the date of the patent* securing the invention as proper substitute for the one omitted in the patented combination." *Gill v. Wells* 89 U.S. (22 Wall.) 1, 28 (1874) (emphasis added).

The Federal Circuit's apparent abandonment of the Supreme Court precedents is best understood when looked at in reverse chronological order. The *Atlas* court stated that "[i]t is not a requirement of equivalence . . . that those skilled in the art know of the equivalence when the patent application is filed or the patent issues."⁷⁴ Although the *Atlas* court cited *Hughes Aircraft Co. v. United States*⁷⁵ and *American Hospital Supply Corp. v. Travenol Labs, Inc.*⁷⁶ as supporting that proposition,⁷⁷ these two cases do not directly support the *Atlas* holding. *American Hospital* states that "[a]n appropriate range of equivalents may extend to post-invention advances in the art *in an appropriate case*."⁷⁸ *American Hospital* also relies on *Hughes*.⁷⁹ *Hughes* states, "[a]s one of our predecessor courts, the Court of Claims, has thrice made clear, that *partial variation in technique, an embellishment* made possible by [after patent-date] technology, does not allow the accused [device] to escape the 'web of infringement.'"⁸⁰ Apparently, the *Atlas* panel sought fit to remove the above italicized limitations, holding that any development may be an equivalent, regardless of whether it was known at the date of patent. Thus, while allowing gradual variations, the Federal Circuit common-law on this issue is now squarely at odds with older Supreme Court precedents.

Although the older Supreme Court decisions seem to have been abandoned in favor of the recent Federal Circuit jurisprudence, the recent Federal Circuit decision in the case of *Atlantic Thermoplastics Co. v. Faytex Corp.*⁸¹ reveals that this issue is far from resolved. In *Faytex*, the panel declined to follow the recent Federal Circuit decision in *Scripps Clinic & Research Foundation v.*

⁷⁴ *Atlas Powder Co.*, 750 F.2d at 1581, 224 U.S.P.Q. at 417.

⁷⁵ 717 F.2d 1351, 219 U.S.P.Q. 473 (Fed. Cir. 1983).

⁷⁶ 745 F.2d 1, 223 U.S.P.Q. 577 (Fed. Cir. 1984).

⁷⁷ *Atlas Powder Co.*, 750 F.2d at 1581, 224 U.S.P.Q. at 417.

⁷⁸ *American Hosp.*, 745 F.2d at 9, 223 U.S.P.Q. at 583 (emphasis added).

⁷⁹ *Id.*

⁸⁰ *Hughes*, 717 F.2d 1351, 1365, 219 U.S.P.Q. 473, 483 (Fed. Cir. 1983) (emphasis added) (citing *Bendix Corp. v. United States*, 600 F.2d 1364, 1382, 204 U.S.P.Q. 617, 631 (Ct. Cl. 1979) ("The mere fact that the accused [device] may be more sophisticated . . . does not allow the accused [device] to escape the web of infringement" (citations omitted)); *Decca Ltd. v. United States*, 544 F.2d 1070, 1080-81, 191 U.S.P.Q. 439, 447-48 (Ct. Cl. 1976) ("[M]erely because the accused system is an improvement over the patented system does not also mean that it does not infringe the [claims of] the patent." (citation omitted)); *Eastern Rotorcraft Corp. v. United States*, 397 F.2d 978, 981, 154 U.S.P.Q. 43, 45 (Ct. Cl. 1968) ("That the [accused] device involves an additional element does not avoid infringement" (citations omitted))).

⁸¹ 970 F.2d 834, 23 U.S.P.Q.2d 1481 (Fed. Cir. 1992).

*Genentech, Inc.*⁸² and, instead, followed several century-old Supreme Court cases that the *Scripps* panel did not address.⁸³

Similar to the *Scripps* decision, the Federal Circuit decisions stating that an equivalent may include subsequently developed technologies apparently did not address the older Supreme Court decisions. Therefore, although Federal Circuit precedents appear to have expanded the range of equivalents to include subsequent developments in technology, a contrary argument may be based on firm Supreme Court precedents. The Federal Circuit should expressly state whether these older Supreme Court precedents have been abandoned, or whether these will, for example, be limited to “a combination” patent.⁸⁴

3. *The Pioneer/Non-Pioneer Status of the Invention*

Under Supreme Court precedents, a pioneer invention should be accorded a wider range of equivalents than a slight improvement in a crowded field:

It is well settled that a greater degree of liberality and a wider range of equivalents are permitted where the patent is of a pioneer character than when the invention is simply an improvement, maybe the last and successful step, in the art theretofore partially developed by other inventors in the same field.⁸⁵

⁸² 927 F.2d 1565, 18 U.S.P.Q.2d 1001 (Fed. Cir. 1991).

⁸³ *Faytex*, 970 F.2d at 838–39 n.2, 23 U.S.P.Q.2d at 1485 n.2. The court explained:

This court in *Scripps Clinic* ruled without reference to the Supreme Court’s previous cases A decision that fails to consider Supreme Court precedent does not control if the court determines that the prior panel would have reached a different conclusion if it had considered controlling precedent.” See *Tucker v. Phyfer*, 819 F.2d 1030, 1035 n.7 (11th Cir. 1987).

Id.

⁸⁴ See *supra* note 71 and accompanying text.

⁸⁵ *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405, 415 (1908) (quoting *Cimiotti Unhairing Co. v. American Fur Ref. Co.*, 198 U.S. 399, 406 (1905)). The same court elaborated:

The right view is expressed in *Miller v. Eagle Manufacturing Company*, 151 U.S. 186, 207, as follows: “The range of equivalents depends upon the extent and nature of the invention. If the invention is broad and primary in its character, the range of equivalents will be correspondingly broad, under the liberal construction which the courts give to such inventions.” And this was what was decided in *Kokomo Fence Machine*

Thus, a non-pioneer patent—one in a crowded field—should be given a narrower range of equivalents than the same invention that revolutionized or created a field.

The Federal Circuit has not uniformly addressed the pioneer/non-pioneer issue. The starting point, of course, is *Graver Tank*. “In applying the doctrine of equivalents, the fact finder *must* determine the range of equivalents to which the claimed invention is entitled, in light of the prosecution history, the pioneer/non-pioneer status of the invention, and the prior art.”⁸⁶ However, from that common starting ground, the opinions diverge. Some opinions are still written under the principle that a pioneer invention is “entitled to a broad range of equivalents.”⁸⁷ However, a trial court will apparently not be reversed if it fails to expressly consider the pioneer/non-pioneer status of an invention.⁸⁸ One court even went so far as to say that the “finding of equivalence does not depend on the status of the invention as a ‘pioneer.’”⁸⁹ Another court dismissed the pioneer/non-pioneer distinction as “ancient jurisprudence.”⁹⁰

Case . . . Ciniotti Unhairing Company v. American Fur Ref. Company, . . . and Computing Scale Co. v. Automatic Scale Company, 204 U.S. 609. . . .

It is manifest, therefore, that . . . the range of equivalents depends upon and varies with the degree of invention. *See Ives et al. v. Hamilton, Executor*, 92 U.S. 426; *Hoyt v. Home*, 145 U.S. 302; *Deering v. Winona Harvester Works*, 155 U.S. 286; *Walker on Patents*, § 362; *Robinson on Patents*, § 258.

Id. at 414, 415.

This doctrine was widely applied and stood on firm footing. “No question is made but that plaintiff’s invention was broadly new, a pioneer in its line, and the patent entitled to a broad construction and the claims to a liberal application of the doctrine of equivalent. *See Brothers v. Lidgerwood Mfg. Co.*, 223 Fed. 359, 138 C. C. A. 460.” *Brothers v. United States*, 250 U.S. 88, 89 (1919).

⁸⁶ *D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1575, 225 U.S.P.Q. 236, 239 (Fed. Cir. 1985) (emphasis added) (citing *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.*, 339 U.S. 605, 610, 85 U.S.P.Q. 328, 330 (1950)).

⁸⁷ *Perkin-Elmer Corp. v. Westinghouse Elec. Corp.*, 822 F.2d 1528, 1532, 3 U.S.P.Q.2d 1321, 1324 (Fed. Cir. 1987).

⁸⁸ *Laitram Corp. v. Cambridge Wire Cloth Co.*, 863 F.2d 855, 861 n.15, 9 U.S.P.Q.2d 1289, 1294 n.15 (Fed. Cir. 1987).

⁸⁹ *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1261 n.7, 9 U.S.P.Q.2d 1962, 1970 n.7 (Fed. Cir. 1989).

⁹⁰ *Sun Studs, Inc. v. ATA Equip. Leasing, Inc.*, 872 F.2d 978, 987, 10 U.S.P.Q.2d 1338, 1346 (Fed. Cir. 1989) (“[T]he ‘pioneer’ is not a separate class of invention, carrying a unique body of law.”).

The consideration of pioneer/non-pioneer status seems to have been absorbed by the idea that the doctrine of equivalents may not be used by a patentee to ensnare the prior art.⁹¹ As previously mentioned,⁹² although not technically correct, the doctrine of equivalents may be thought of as expanding the claims. A pioneer invention will usually stand alone; that is, there will be no prior art that even comes close to it. Thus, in general there is adequate room to expand the claims of a pioneer invention; moderate claim expansion will not ensnare the prior art.

On the other hand, in a crowded field, the gap between the claimed material and the prior art will be slight. Each subsequent patentee in any given field carves out a piece of the patentable material between others' patents and the prior art. Thus, the claims defining patents in a crowded field have little room to expand; any expansion will ensnare the prior art. Thus, the idea that the range of equivalent depends on the pioneer/non-pioneer status of the invention parallels and possibly duplicates the idea that a patentee may not engulf the prior art.⁹³

The recently decided *Faxtex* decision⁹⁴ makes it clear that unless properly addressed, the older Supreme Court decisions may be the basis for a strong argument that the pioneer or non-pioneer status of a patent carries weight. Thus, although a patent's pioneer/non-pioneer status and its effect on the range of equivalents seems to duplicate or parallel the policy that a patentee may not

⁹¹ See *supra* subpart II(E).

⁹² See *supra* note 16 and accompanying text.

⁹³ This seems to have been the rationale behind the dismissal of the pioneer/non-pioneer idea in *Sun Studs*, 872 F.2d at 987, 10 U.S.P.Q.2d at 1346 ("The wide range of technological advance between pioneering breakthrough and modest improvement accommodates gradations in scope of equivalency."). Apparently the same rationale was used by the Federal Circuit in *Texas Instruments v. United States Int'l Trade Comm'n*, 846 F.2d 1369, 1370, 6 U.S.P.Q.2d 1886, 1888 (Fed. Cir. 1988):

The judicially "liberal" view of both claim interpretation and equivalency accorded a "pioneer" invention, see *Morley Sewing Machine Co. v. Lancaster*, 129 U.S. 263, 9 S. Ct. 299, 32 L.Ed. 715 (1889), is not a manifestation of a different legal standard based on an abstract legal concept denominated "pioneer". Rather, the "liberal" view flows directly from the relative sparseness of prior art in nascent fields of technology However, even its "pioneer" status does not change the way infringement is determined. The patentee's disclosure, the prosecution history, and the prior art still provide the background against which the scope of claims is determined.

⁹⁴ See *supra* notes 81-83 and accompanying text.

engulf the prior art, the Federal Circuit should clear up this matter by expressly stating whether a patent's pioneer/ non-pioneer status is relevant or irrelevant.

D. No Requirement of One-To-One Correspondence

To establish infringement by equivalents, an equivalent for every claim limitation must be found in the accused device⁹⁵ and proven to be a substantial equivalent.⁹⁶ However, the element-by-element analysis does not require a one-to-one correspondence between components of the accused device and those disclosed in the patent.⁹⁷ For example, three components in the claimed invention, each corresponding to an element of the claim, may be substituted by a single component in the accused device, corresponding to all three of the claim elements. Thus, under the doctrine of equivalents, there is no requirement of a structure corresponding to each claim limitation.

One source of confusion is the use of similar terms when analyzing "means-plus-function" claims.⁹⁸ Unlike applying the doctrine of equivalents to a "standard" claim, to be an "equivalent" and thus establish infringement of a means-plus-function claim, the accused device must have a structure corresponding to the means-plus-function claim limitation.⁹⁹ There is no such requirement for an "equivalent" under the doctrine of equivalents.

⁹⁵ See *supra* subpart II(B).

⁹⁶ See *supra* subpart II(C)(1).

⁹⁷ *Intel Corp. v. United States Int'l Trade Comm'n*, 946 F.2d 821, 832, 20 U.S.P.Q.2d 1161, 1171 (Fed. Cir. 1991). "An equivalent must be found for every limitation of the claim somewhere in the accused device, but not necessarily in a corresponding component." *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1259, 9 U.S.P.Q.2d 1962, 1968 (Fed. Cir. 1989).

⁹⁸ 35 U.S.C. § 112. An analysis under this statute involves a definition of the word "equivalent" that differs from the definition used under a doctrine of equivalents analysis. See *D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1575, 225 U.S.P.Q. 236, 239 (Fed. Cir. 1985).

⁹⁹ This acts like a reverse doctrine of equivalents, limiting the scope of protection of the means-plus-function claim limitation. *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 962, 4 U.S.P.Q.2d 1737, 1762 (Fed. Cir. 1987) (*en banc*), *cert. denied*, 485 U.S. 961 (1988).

E. Range of Equivalents May Not Ensnare the Prior Art

The “invention as a whole” analytical doctrine, rejected by the Federal Circuit,¹⁰⁰ still has a place in the doctrine of equivalents analysis. One great limitation on the application of the doctrine of equivalents is that the invention as a whole, when looked at from an equivalency standpoint, may not “ensnare the prior art.”¹⁰¹ “[A] patentee should not be able to obtain, under the doctrine of equivalents, coverage that he could not lawfully have obtained from the [Patent and Trademark office] by literal claims.”¹⁰² The prior art always limits what an inventor may claim.¹⁰³ Therefore, the prior art limits the range of permissible equivalents.¹⁰⁴ The prior art may prevent infringement by equivalents even if every limitation of an asserted claim is literally or equivalently present in an accused device.¹⁰⁵

The patentee must prove that the range of equivalents being sought would not ensnare the prior art.¹⁰⁶ In general, a patentee has the burden of proving patent claim infringement.¹⁰⁷ Placing the burden of proving nonencroachment into the prior art onto the patentee is merely an extension of this long-standing burden of proving infringement.¹⁰⁸

Using a hypothetical claim analysis¹⁰⁹ is a helpful, but not mandatory,¹¹⁰ way for the patentee to meet the burden of proving that the range of equivalents sought does not ensnare the prior art. This analysis involves “visualizing a hypothetical patent claim, sufficient in scope to literally cover the accused product. The pertinent question then becomes whether that hypothetical claim

¹⁰⁰ See *supra* note 45.

¹⁰¹ *Wilson Sporting Goods Co. v. David Geoffrey & Assoc.*, 904 F.2d 677, 685, 14 U.S.P.Q.2d 1942, 1948–49 (Fed. Cir.), *cert. denied*, 111 S. Ct. 537 (1990).

¹⁰² *Id.* at 684, 14 U.S.P.Q.2d at 1948.

¹⁰³ *E.g.*, 35 U.S.C. §§ 102, 103 (1988).

¹⁰⁴ *Id.*

¹⁰⁵ *Jurgens v. McKasy*, 927 F.2d 1552, 1561, 18 U.S.P.Q.2d 1031, 1037 (Fed. Cir. 1991).

¹⁰⁶ *Wilson Sporting Goods Co. v. David Geoffrey & Assoc.*, 904 F.2d 677, 685, 14 U.S.P.Q.2d 1942, 1948–49 (Fed. Cir. 1990) (citing *Under Sea Indus., Inc. v. Dacor Corp.*, 833 F.2d 1551, 1557, 4 U.S.P.Q.2d 1772, 1776 (Fed. Cir. 1987)).

¹⁰⁷ *E.g.*, *Under Sea Indus., Inc.*, 833 F.2d at 1557, 4 U.S.P.Q.2d at 1776..

¹⁰⁸ *Wilson Sporting Goods*, 904 F.2d at 685, 14 U.S.P.Q.2d at 1949.

¹⁰⁹ *Id.* at 684, 14 U.S.P.Q.2d at 1948.

¹¹⁰ *Key Mfg. Group, Inc. v. Microdot, Inc.*, 925 F.2d 1444, 1449, 17 U.S.P.Q.2d 1806, 1810 (Fed. Cir. 1991).

could have been allowed by the PTO over the prior art.”¹¹¹ This “analysis does not envision application of a full-blown patentability analysis to a hypothetical claim,”¹¹² but merely recommends using the hypothetical claim to narrow the focus of the analysis to the matter at hand.¹¹³

If the hypothetical claim would not have been allowed over the prior art, then “it would be improper to permit the patentee to obtain that coverage.”¹¹⁴ On the other hand, if the hypothetical claim would have been allowed over the prior art, then the “prior art is not a bar to infringement under the doctrine of equivalents.”¹¹⁵

F. *Prosecution History Estoppel as a Bar*

Prosecution history estoppel,¹¹⁶ like the prior art, limits the range of equivalents permitted in an infringement by equivalents suit. The doctrine of equivalents may not be used by the patentee to exclude others from making, selling, or using art surrendered during the prosecution of the patent. The “file wrapper” is the history of an inventor’s prosecution of the application. The file wrapper includes relevant prosecution history, such as amendments, statements, and replies made to obtain a patent. For example, an examiner in the PTO may reject a claim as being unpatentable over the prior art. The inventor may then narrow the scope of the claim by adding limitations to the claim. The examiner’s rejection and the inventor’s corresponding changes to the claim language become part of the file wrapper. If the changed claim is litigated, the patentee is bound by the changed language and cannot assert that the claim is really broader than the patentee and the examiner agreed it would be. The patentee is estopped from asserting that the claim is broader than the prosecution history, as recorded by the file wrapper, indicates.

The doctrine of equivalents may not be used by the patentee to exclude others from making, selling, or using art surrendered during the prosecution of

¹¹¹ *Wilson Sporting Goods*, 904 F.2d at 684, 14 U.S.P.Q.2d at 1948.

¹¹² *Key Mfg. Group*, 925 F.2d at 1449, 17 U.S.P.Q.2d at 1810.

¹¹³ How this differs from a “full-blown” patentability analysis is unclear.

¹¹⁴ *Wilson Sporting Goods*, 904 F.2d at 684, 14 U.S.P.Q.2d at 1948.

¹¹⁵ *Id.*

¹¹⁶ Prosecution history estoppel is also known as “file wrapper estoppel” in some cases. *E.g.*, *Jönsson v. Stanley Works*, 903 F.2d 812, 14 U.S.P.Q.2d 1863 (Fed. Cir. 1990).

the patent.¹¹⁷ However, the fact that a claim was amended does not automatically preclude an application of the doctrine of equivalents. "Whenever prosecution history estoppel is invoked as a limitation to infringement under the doctrine of equivalents, a close examination must be made as to, not only what was surrendered, but also the reason for such a surrender."¹¹⁸ Amendments may be of different types and may serve different functions. Depending on the nature and purpose of an amendment it may have a limiting effect within a spectrum ranging from great to small to zero."¹¹⁹

III. INFRINGEMENT BY EQUIVALENTS AS THE SECOND PRONG

The constitutional "protect the patentee function" of the doctrine of equivalents is in direct conflict with the "provide notice to the people function" of the United States patent system.¹²⁰ When confronted with expanding the protection beyond the scope of the claims, the "provide notice to the people function" usually prevails. As such, literal infringement is the mainstay of the United States patent system protection, and the doctrine of equivalents is "the exception [and] not the rule."¹²¹ As stated recently by the Federal Circuit, if "the doctrine of equivalents is simply the second prong of every infringement charge, . . . then claims will cease to serve their intended purpose. Competitors will never know whether their actions infringe a granted patent."¹²² Nevertheless, there are compelling reasons why the doctrine of equivalents *should* be the second prong of every patent infringement charge.

¹¹⁷ 4 DONALD S. CHISUM, PATENTS: A TREATISE ON THE LAW OF PATENTABILITY, VALIDITY AND INFRINGEMENT § 18.05 (1991).

¹¹⁸ *Insta-Foam Products, Inc. v. Universal Foam Systems, Inc.*, 906 F.2d 698, 703, 15 U.S.P.Q.2d 1295, 1298 (Fed. Cir. 1990) (quoting *Bayer Aktiengesellschaft v. Duphar Int'l Research*, 738 F.2d 1237, 1243, 222 U.S.P.Q. 649, 653 (Fed. Cir. 1984)).

¹¹⁹ *Id.* at 703, 15 U.S.P.Q.2d at 1298 (quoting *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1363, 219 U.S.P.Q. 473, 481 (Fed. Cir. 1983)).

¹²⁰ *See supra* subpart I(D).

¹²¹ *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538, 20 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 1991).

¹²² *Id.* at 1538, 20 U.S.P.Q.2d at 1459.

A. *The Doctrine of Equivalents Should be Expanded*

The *Graver Tank* Court speaks in terms of protecting patentees from “piracy,” “fraud,” and “stealing.”¹²³ This is a worthy goal, because the promotion of the “Progress of Science and useful Arts”¹²⁴ is served more by the protection of inventors than by the comfortable feeling the rest of the public has by receiving notice that its actions potentially infringe.¹²⁵ If the inventors are not protected they may choose to keep their inventions secret rather than disclosing them through the patent system. If that occurs, the promotion of “the Progress of Science and useful Arts” will fall to the side because the body of public domain knowledge, in the form of expired patents, will cease to grow.

If literal infringement becomes the only option, a prospective “copyist” must merely read the patent and make insubstantial changes, barely avoiding the literal language of the claims, to impermissibly steal the invention. It is the

¹²³ *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.*, 339 U.S. 605, 612, 85 U.S.P.Q. 328, 330 (1950) (Black, J. dissenting).

¹²⁴ U.S. CONST. art. I, § 8, cl. 8.

¹²⁵ See *supra* subpart I(D). Japan is also a good example of why the doctrine of equivalents is so important. Japan has virtually no doctrine of equivalents. Robert Greene Sterne & Edward J. Kessler, *Patent Protection for Computer-Related Technology: An International Strategy*, 292 PLI/PAT 23, text on WESTLAW, at *23. (“Japan has no doctrine of equivalents in the way this term is defined in the United States. . . . [T]he scope of protection obtained in Japan does not extend much beyond the claim language, if at all.”); Charles R.B. Macedo, *First-to-File: Is American Adoption of the International Standard in Patent Law Worth the Price?*, 18 AIPLA Q.J. 193, text on WESTLAW, at *22 (“Both the U.S. and European systems tend to interpret claims broadly, while the Japanese tend to interpret claims narrowly.”); Takashi Ishida, *Helpful Hints to Effective Japanese Patent Protection*, 319 PLI/PAT 93, text on WESTLAW, at *56:

In Japan, the . . . doctrine of equivalency [sic] may be said to be a weapon for the patentee to attack others in an infringement case, but in Japan, there are few cases where it has been successfully applied in practice. There are scattered examples of decisions of district courts recognizing equivalency being overturned in appeals and these appeal [sic] decisions being supported at the Supreme Court.

This lack of the doctrine of equivalents seriously hampers the patentee’s protection. Bernarr R. Pravel, *Why the United States Should Adopt the First-to-File System for Patents*, 22 ST. MARY’S L.J. 797, 807 (1991) (“[T]he doctrine of equivalents . . . is not available in most countries, including Japan. Thus, foreign patents are often so restricted in their protection that they are of insignificant or no value.”).

ease of copying patented inventions that allows a court, confronted with two virtually identical devices, to “properly infer that the accused [concept] is the result of imitation rather than experimentation or invention.”¹²⁶ Intent is not a factor. Thus, although the *Graver Tank* goals of the doctrine of equivalents speak to the prevention of intentional misuse, the application of the doctrine in fact parallels the literal infringement doctrine from which the doctrine of equivalents originated.¹²⁷

However, an accused infringer may offer evidence that the patented concept was not stolen, pirated, or fraudulently obtained.¹²⁸ If this defense becomes widely accepted, the fears of making infringement by equivalents the second prong may be allayed. If those accused of infringement by equivalents are permitted to prove that independent research was the source of the accused device, then the doctrine of equivalents may be comfortably expanded to give the patentee greater protection, thereby promoting the progress of science, without punishing those who neither stole, nor pirated, nor practiced fraud on an invention.

Our system encourages others to copy the ideas in patents by “designing around”¹²⁹ the claims of the patent in the name of promoting the progress of

¹²⁶ *Graver Tank*, 339 U.S. at 612, 85 U.S.P.Q. at 332 .

¹²⁷ 35 U.S.C. §§ 271(b), (c) (1988) (intent is irrelevant with respect to literal infringement).

¹²⁸ *Graver Tank*, 339 U.S. at 611, 85 U.S.P.Q. at 331 (“And the record contains no evidence of any kind to show that [the accused concept] was developed as the result of independent research or experiments.”).

¹²⁹ *Slimfold Mfg. Co. v. Kinhead Indus.*, 932 F.2d 1453, 1457, 18 U.S.P.Q.2d 1842, 1845–46 (Fed. Cir. 1991):

Intentional “designing around” the claims of a patent is not by itself a wrong which must be compensated by invocation of the doctrine of equivalents. Designing around patents is, in fact, one of the ways the patent system works to the advantage of the public in promoting progress in the useful arts, its constitutional purpose.”;

Read Corp. v. Portec, Inc., 970 F.2d 816, 23 U.S.P.Q.2d 1426 (Fed. Cir. 1992) (citations omitted);

We have often noted that one of the benefits of the patent system is the incentive it provides for “designing around” patented inventions, thus creating new innovations. . . . Of course, determining when a patented device has been “designed around” enough to avoid infringement is a difficult determination to make. One cannot

science and useful arts. Allowing others to design around patent claims clearly promotes their progress; however, at what point does this encouraged, permissible copying become impermissible infringement that deters inventors from revealing their inventions to society in exchange for protection? "The question which thus emerges is whether . . . the change [between the patented formula and the accused formula] was so insubstantial that the trial court's invocation of the doctrine of equivalents was justified."¹³⁰

How insubstantial must the change be between a patented device and an accused device? The Federal Circuit rightfully refuses to provide a bright line test.¹³¹ What is the necessary quantum of difference? One court defined the difference as follows: a "substantial change" does not infringe; an "insubstantial change" does infringe by equivalents.¹³² Clearly the prior art will provide a boundary as to what will be excluded as an equivalent. But should the claim be allowed to expand to fill the entire gap between the claim's literal terms and the prior art?

If the promotion of the progress of science and the useful arts is indeed best served by enhancing the protection function of the doctrine of equivalents, thereby slightly subordinating the notice function of the claims, then the doctrine of equivalents should become the second prong of every infringement charge.

One way to minimize the negative effect on the notice function, while enhancing the protection function, is by not allowing damages for infringement by equivalents for acts that occur before the accused infringer is put on actual notice of such infringement. The Federal Circuit could limit the remedies for infringement by equivalents to an injunction and damages for any infringing activities committed *after* the party is put on actual notice of such infringement.

Additionally, the idea that an "innocent" infringer is not liable for such infringement, outlined in the previous section, could be combined with the idea presented immediately above. An innocent infringer would not be liable for

know for certain that changes are sufficient to avoid infringement until a judge or jury has made that determination.

Designing around a patent involves examining the patent, then purposefully designing a device that avoids infringing the patent claims either literally or under the doctrine of equivalents.

¹³⁰ *Graver Tank*, 339 U.S. at 610, 85 U.S.P.Q. at 331.

¹³¹ *See supra* subpart II(C)(1).

¹³² *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538, 20 U.S.P.Q.2d 1456, 1458 (Fed. Cir. 1991).

damages for infringement by equivalents caused by acts that occurred before the innocent infringer was put on actual notice of such infringement.

B. How The Doctrine of Equivalents Could be Limited

If the Federal Circuit is determined to limit the application of the doctrine of equivalents, several ways are available. The doctrine of equivalents itself is a very limited doctrine. Part II of this Note illustrates how much the doctrine is constricted by its definition. Thus, one method of keeping the doctrine of equivalents from becoming the second prong¹³³ of every patent infringement charge is merely to enforce the doctrine as it is currently defined.

Rule 11 of the Federal Rules of Civil Procedure provides a second method. The first time counsel is sanctioned under Rule 11 for not even *arguing* that a claim limitation is equivalently met by an accusing device, the number of doctrine of equivalent “second prongs” probably will diminish significantly. But surely the Federal Circuit was not referring to improperly pleaded or argued infringement by equivalents charges when it stated the above policy.

A third method may be used to limit the application of the doctrine of equivalents. The *Graver Tank* Court defines the objective of the doctrine in terms of protecting patentees from “piracy,” “fraud,” and “stealing.”¹³⁴ The *Winans* Court dealt directly with the case of a defendant walking into the plaintiff’s shop and virtually stealing the plaintiff’s invention.¹³⁵ A way to limit greatly the application of the doctrine would be to make the patentee allege and prove either piracy, fraud, or stealing to meet an equitable threshold. A recent Federal Circuit decision recognized the absence of any “evidence showing an equitable basis for invoking the doctrine of equivalents.”¹³⁶ Another recent Federal Circuit decision states that the doctrine of equivalents must be confined to “its proper equitable role.”¹³⁷ Thus, by requiring patentees to make a showing sufficient to invoke the equity-based doctrine, the *Graver Tank* objective of the doctrine could be met and the Federal Circuit would never have to worry about the doctrine becoming the second prong of every patent infringement charge. If the Federal Circuit chooses this third option to limit the doctrine, then evidence that an accused infringer attempted to design around the

¹³³ *Id.*

¹³⁴ *Graver Tank*, 339 U.S. at 610, 85 U.S.P.Q. at 330.

¹³⁵ *Winans v. Denmead*, 56 U.S. (15 How.) 330, 332 (1853).

¹³⁶ *Illinois Tool Works Inc. v. Rawplug Co.*, 975 F.2d 868 (Fed. Cir. 1992).

¹³⁷ *Charles Greiner & Co. v. Mari-Med Mfg., Inc.*, 962 F.2d 1031, 1036, 22 U.S.P.Q.2d 1526, 1530 (Fed. Cir. 1992).

claimed invention should allow the patentee to meet the requisite equitable threshold. Clearly the *Winans*-type smoking gun is rare and designing around patent claims too closely is the type of wrong from which the *Graver Tank* Court sought to protect patentees.

C. Infringement by Equivalents Should be the Second Prong

The fear that infringement by equivalents may become the second prong of every infringement charge¹³⁸ is not a legitimate fear. The real fear is that the doctrine would become the first and only prong of most patent infringement charges. Although the Federal Circuit rightfully refuses to define a bright line test for equivalency,¹³⁹ it is apparently unable to live with the uncertainty that a fuzzy definition naturally causes.

Infringement by equivalents should be the second prong of every patent infringement charge, because an infringement by the equivalents second prong is the natural result of the fuzzy definition of an equivalent. Infringement is made out when every claim limitation is met either literally or equivalently. The doctrine of equivalents effectively broadens the patent claims.¹⁴⁰ Therefore, if counsel can allege, with Rule 11 in mind, that every claim limitation is met literally, then that counsel can surely, even fearlessly, argue that every claim limitation is met either literally or equivalently. Furthermore, if the parties have proceeded to the litigation stage with respect to literal infringement, then the claims will be interpreted and the accused device will be compared to the disputed claims.¹⁴¹ An equivalency analysis seems but a small addition to this process.

However, saying that infringement by equivalents should be the second prong of every patent infringement charge does not mean that every plaintiff will necessarily succeed. The doctrine can become the second prong and remain an exception to the rule. That is, complaints can regularly sound in both literal infringement and infringement by equivalents without making extended protection regularly available.

The Federal Circuit should really fear that infringement under the doctrine of equivalents will be the first and only prong of most patent infringement charges. For example, if a complaint sounds only in infringement by

¹³⁸ See *supra* note 122.

¹³⁹ See *supra* subpart II(C)(1).

¹⁴⁰ See *supra* note 16 and accompanying text.

¹⁴¹ *SSIH Equip. S.A. v. United States Int'l Trade Comm'n*, 718 F.2d 365, 376, 218, U.S.P.Q. 678, 688 (Fed. Cir. 1983).

equivalents, or if the literal infringement prong is disposed of by an early summary judgment, then litigators have only the fuzzy definition of an equivalent with which to contend. Because litigants will have no bright lines to guide them, the issue of infringement by equivalents will nearly always be arguable. With only the doctrine of equivalents to argue, an attitude of "when in doubt, bring suit" will arise as one extreme logical result of the fuzzy definition of an equivalent. Thus, if the doctrine of equivalents becomes the one and only infringement charge, then the fuzzy definition of equivalency will be a source of increased litigation.

As long as the doctrine of equivalents remains subordinated to the literal infringement doctrine, the fuzzy definition serves the system well. When and if infringement by equivalents routinely becomes the first and only prong of patent infringement charges, the Federal Circuit should act to brighten the line between equivalency and non-equivalency. Until then, the definition is workable and the added protection for patentees, made possible by the flexibility in the definition, is well worth having infringement by equivalents as the second prong of every patent infringement charge.

IV. CONCLUSION AND RECOMMENDATION

The Federal Circuit has made great strides in firming up the doctrine of equivalents: much of the doctrine is now concrete and the rightfully fuzzy definition of an equivalent serves the equity-based doctrine well. However, several issues must be cleared up by the Federal Circuit when appropriate cases arise. The court should address whether it has "overruled" Supreme Court precedents requiring the existence of an equivalent at the time of invention. Furthermore, the Court should definitively state whether the pioneer or non-pioneer status of a patent is a factor in determining the range of equivalents or, possibly, whether this principle has merged with the principle that a patentee may not ensnare the prior art. Until clarified, these wrongfully fuzzy areas cloud the validity of the rightfully fuzzy definition of an equivalent.

The Federal Circuit is worried about the doctrine of equivalents becoming the second prong of every patent infringement charge. The doctrine of equivalents *should* be the second prong of every patent infringement charge. The real worry is if and when the doctrine of equivalents becomes the first and only prong of patent infringement charges. For now, judicious application of the rightfully fuzzy definition of an equivalent will keep the doctrine in check, while granting the protection that patentees need.

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